WHAT IS CLAIMED IS:

1. A method for detecting radiation comprising:

forming a detector having a photocathode with a protective layer of cesium, oxygen and fluorine, a microchannel plate and an electron receiver for generating signals responsive to received electrons;

receiving radiation at the photocathode;

discharging electrons from the photocathode in response to the received radiation;

accelerating discharged electrons toward an input face of the microchannel plate;

receiving electrons at the input face of the microchannel plate;

generating secondary emission electrons in the microchannel plate in response to the received electrons;

emitting secondary emission electrons from the output face of the microchannel plate;

receiving secondary emission electrons at the electron receiver; and

producing an output characteristic of the received secondary emission electrons.

2. The method of claim 1, wherein the detected radiation is electromagnetic radiation having a wavelength within the range spanning from far infrared to ultraviolet.

3. The method of claim 1, wherein the detected radiation is visible light from an image and the output produced by the electron receiver is a representation of the image.

4. The method of claim 1, wherein the electron receiver is a phosphor screen.

5. The method of claim 1, wherein the electron receiver is a charge coupled device (CCD).

6. The method of claim 3, wherein the method is used for night vision devices.

7. A device for detecting radiation comprising:

a photocathode operable to receive radiation at an input side and to produce electrons at an output side in response to the received radiation, the output side of the photocathode having a protective layer comprising cesium, oxygen and fluorine;

a microchannel plate operable to receive electrons from the photocathode at an input face and to emit secondary emission electrons in response from an output face; and

an electron receiver operable to receive secondary emission electrons and to produce an output characteristic of the received secondary emission electrons.

8. The device of claim 7, wherein the received radiation is electromagnetic radiation having a wavelength within the range spanning from far infrared to ultraviolet.

9. The device of claim 7, wherein the received radiation is visible light from an image and the output is a representation of the image.

10. The device of claim 9, wherein the device is used for night vision.

11. The device of claim 7, further comprising a power supply operable to produce electric fields to accelerate electrons between components of the device.

12. The device of claim 7, further comprising optics operable to focus radiation onto the photocathode.

13. The device of claim 7, wherein the microchannel plate has an unfilmed input face.

14. The device of claim 7, wherein the electron receiver is a phosphor screen.

15. The device of claim 7, wherein the electron receiver is a charge coupled device (CCD).

16. A method of manufacturing a hardened photocathode comprising:

forming a photocathode having an input side for receiving photons and an output side for generating electrons in response to received photons;

exposing the output side of the photocathode to cesium;

exposing the output side of the photocathode to oxygen; and

exposing the output side of the photocathode to fluorine.

17. The method of claim 16, wherein the photocathode comprises a gallium arsenide (GaAs) or indium gallium arsenide (InGaAs) layer mounted upon a transparent substrate.

18. The method of claim 16, wherein the output side of the photocathode is exposed to cesium, oxygen and fluorine until the photoelectric response of the photocathode is maximized.

19. The method of claim 16, wherein the exposure of the photocathode to cesium, oxygen and fluorine comprises separate steps of exposure to cesium and exposure to a combination of oxygen and fluorine.

20. The method of claims 18, wherein the steps of exposure are iterated until the photoelectric response is maximized.